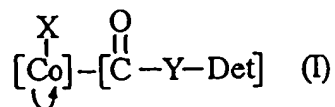


## WHAT IS CLAIMED IS:

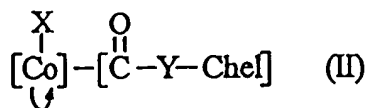
1. A compound of the formula:



wherein the moiety  $\begin{array}{c} \text{X} \\ | \\ [\text{Co}] \\ | \end{array}$  is cobalamin,  $\begin{array}{c} \text{O} \\ || \\ \text{C} \end{array}$  is the residue of a monocarboxylic acid of cobalamin, X is CN, OH, methyl or adenosyl, Y is a linking group and Det is a detectable chelating group comprising a radionuclide or a paramagnetic metal ion.

2. The compound of claim 1 wherein the radionuclide is a metallic radioisotope.
3. The compound of claim 2 wherein the metallic radioisotope is  $\text{Tc}^{99\text{m}}$ ,  $\text{In}^{111}$  or  $\text{Gd}^{153}$ .
4. The compound of claim 1 wherein  $\begin{array}{c} \text{O} \\ || \\ \text{C} \end{array}$  is the residue of the (b)-monocarboxylic acid.
5. The compound of claim 4 wherein Y is a divalent monomer, dimer or trimer of  $\text{N(H)(CH}_2\text{)}_{2-6}\text{N(H)}$ .
6. The compound of claim 5 wherein Y is  $-\text{N(H)(CH}_2\text{)}_4\text{NH}-$ .
7. The compound of claim 1 wherein Det is EDTA, DTPA, DOTA, TETA, or DCTA.
8. The compound of claim 3 wherein Det comprises DTPA.

9. A compound of the formula:



wherein the moiety  $\begin{array}{c} \text{X} \\ | \\ [\text{Co}] \\ | \\ \text{O} \end{array}$  is cobalamin,  $\begin{array}{c} \text{O} \\ || \\ \text{C} \end{array}$  is the residue of a monocarboxylic acid of the cobalamin, X is CN, OH, methyl or adenosyl, Y is a linking group and Chel is a chelating group which can chelate a radionuclide or a paramagnetic metal ion.

10. The compound of claim 9 wherein Chel is EDTA, DTPA, DOTA, TETA, or DCTA.
11. The compound of claim 9 wherein Y is a divalent monomer, dimer, or trimer of  $-\text{N}(\text{H})(\text{CH}_2)_{2-6}\text{N}(\text{H})-$ .
12. The compound of claim 11 wherein Y is  $-\text{N}(\text{H})(\text{CH}_2)_4\text{NH}-$ .
13. The compound of claim 9 wherein  $\begin{array}{c} \text{O} \\ || \\ \text{C} \end{array}$  is the residue of the (b)-monocarboxylic acid.
14. A method of evaluating kidney, liver, spleen or intestinal function in a mammal comprising administering to said mammal a detectable amount of a compound of claim 1 in combination with a pharmaceutically acceptable vehicle, and detecting the presence of said compound in the kidney, liver, pancreas, spleen, or intestine of said mammal.
15. The method of claim 14 wherein the administration is parenteral.
16. The method of claim 15 wherein the administration is intravenous.

17. The method of claim 16 wherein the administration is intraperitoneal.
18. The method of claim 14 wherein the administration is oral.
19. A method of detecting a tumor in a mammal afflicted with a tumor comprising administering to said mammal an amount of a compound of claim 1 in combination with a pharmaceutically acceptable vehicle, and detecting the presence of said compound in the tumor.
20. The method of claim 19 wherein the administration is parenteral.
21. The method of claim 19 wherein the administration is oral.
22. The method of claim 19 wherein the vehicle is an aqueous vehicle.
23. The method of claim 19 wherein the tumor is a liver, kidney, splenic, pancreatic, or gastrointestinal tumor.